2015-1734, –1736, –1737, –1738, –1739, –1740, –1741, –1742, –1816, –1817, –1818, –1819

United States Court of Appeals for the Federal Circuit

MICROSOFT CORPORATION,

Appellant,

v.

ENFISH, LLC,

Cross-Appellant.

Appeals from the United States Patent and Trademark Office, Patent Trial and Appeal Board in Case Nos. IPR2013-00559, -560, -561, -562, -563,

BRIEF FOR DEFENDANT–CROSS-APPELLANT

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FEBRUARY 5, 2016

**UNITED STATES COURT OF APPEALS
FOR THE FEDERAL CIRCUIT**
Microsoft Corporation v. Enfish, LLC, 15-1734

CERTIFICATE OF INTEREST

Pursuant to Federal Circuit Rules 27(a)(7) and 47.4(a), counsel for Defendant-Cross-Appellant Enfish, LLC, hereby certifies the following:

1. **The full name of every party or amicus represented by me is:**

   Enfish, LLC

2. **The name of the real party in interest (if the party named in the caption is not the real party in interest) represented by us is**:

   N/A

3. **All parent corporations and any publicly held companies that own 10 percent or more of the stock of the party or amicus curiae represented by us are:**

   No publicly-held corporation owns 10% or more of Enfish, LLC stock.

4. **The names of all law firms and the partners or associates that appeared for the party or amicus now represented by us in the trial court or agency or are expected to appear in this court are:**

   Cooley LLP: James P. Brogan, Frank V. Pietrantonio, Orion Armon, Matthew J. Leary*, Janna K. Fischer, Peter J. Sauer, Britton F. Davis, Jennifer Volk-Fortier

*Matthew J. Leary is no longer with Cooley LLP

February 5, 2016	/s/ *Orion Armon*
Date	Signature of counsel
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	Printed Name of Counsel

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STATEMENT OF RELATED CASES

In accordance with Federal Circuit Rule 47.5, counsel for Defendant-Cross-Appellant Enfish, LLC states:

1.   There are no, nor have there been any, other appeals in or from these five *inter partes* reviews (IPRs) before the Patent Trial and Appeal Board (PTAB) before this or any other appellate court.

2.   The patents-in-suit are the subject of a civil action filed in district court in the Central District of California, now on appeal before this Court in Case No. 2015-1244, *Enfish, LLC v. Microsoft Corp.*

INTRODUCTION

Enfish cross-appeals the Patent Trial and Appeal Board's (Board) findings of unpatentability of claims 31, 48-50 and 54 in each of U.S. Patent Nos. 6,151,604 and 6,163,775 (the '604 and '775 patents, respectively), claims 41 and 46 of the '775 patent, and claim 42 of the '604 patent, as well as the claims that depend from them. Reversal of the Board's findings of anticipation is warranted because the Board erred in its construction of the claim term "OID," and used its improper construction in finding these claims unpatentable. The Board erroneously construed "OID" as "an array of bits that define an object." The intrinsic and extrinsic evidence establish that an OID must identify an object, be unique, be system-generated, and be immutable. The Board's construction ignores these requirements.

If this Court reverses the Board's OID claim construction and adopts Enfish's construction of OID, all of Microsoft's appeal arguments are moot because OID is an element in all the claims at issue in this appeal. In addition, Microsoft only addressed the uniqueness aspect of Enfish's OID construction before the Board. Therefore, if this Court finds that OID is any of: an identifier, system-generated, or immutable, this Court should render a decision that Microsoft did not prove any claims at issue were unpatentable.

As to the claims Microsoft appeals, the Board properly found that Microsoft failed to prove claims 32, 36-37, 43, 55, 56, and 60 of the '604 patent and claims 32, 36-37, 42, 55, 56, and 60 of the '775 patent unpatentable. In finding Microsoft did not prove claims 32, 36, 42, and 43 unpatentable, the Board relied on the claims' single-table requirement—a core feature of the Enfish system. Microsoft does not contest the single-table requirement of these claims, except for claims 36 (for simplicity's sake, "claims 36" and similar references refer to the same numbered claim for both patents). This single-table requirement is fatal to Microsoft's arguments for these claims, which all require multiple tables.

Several of Microsoft's arguments on appeal are new, or allege error Microsoft invited, and should not be considered. For claims 32, Microsoft advances three new anticipation arguments: (1) that SYS.COLUMNS alone anticipates claims 32; (2) that Chang's SYS.TABLES alone anticipates claims 32; and (3) that the Board incorrectly construed the language of claims 32 to require text entry followed by searching, where all of Microsoft's arguments relied on searching. (Appellant's Br. at 30-42.) For claims 36 and 37 of both patents, and claim 42 of the '775 patent, Microsoft raises new claim construction arguments. (*Id*. at 45-49, 54.) For claims 55, 56, and 60, Microsoft makes new arguments regarding the rationale to combine Visual Basic (VB3) and Salton. (*Id*. at 56-67.)

Regardless, the Board's decisions are supported by substantial evidence and should be upheld.

JURISDICTIONAL STATEMENT

The Board had jurisdiction under 35 U.S.C. §§ 311 and 318(a). Final written decisions were issued on March 2 and 3, 2015. (A1; A53; A88; A135; A164.) Microsoft appealed and Enfish cross-appealed. This Court has jurisdiction under 35 U.S.C. §§ 141-44 and 319.

STATEMENT OF THE ISSUES

1.   Did the Board err in construing "OID" or "object identification number" to mean "an array of bits that define an object" and, based on that construction, compound its error by finding claims 31, 48-50 and 54 of each patent, claims 41 and 46 of the '775 patent, and claim 42 of the '604 patent unpatentable?

2.   Was the Board's finding that claims 32 were not anticipated by Chang supported by substantial evidence where the Board found that Chang did not disclose all of the elements of claims 32 in a single table?

3.   Was the Board's finding that dependent claims 36 were not obvious in light of Chang and Goldberg supported by substantial evidence where the Board found that Chang does not disclose all the elements of parent claims 31 in a single table and found that Goldberg lacks elements of claims 36?

4. Was the Board's finding that claims 37 of each patent and claim 42 of the '775 patent were not obvious in light of Chang and Anderson supported by substantial evidence where the Board determined that neither disclosed the claimed "pointers"?

5. Was the Board's finding that claim 43 of the '604 patent was not obvious supported by substantial evidence where the Board determined that Chang and Horn did not disclose the elements of claim 43 in a single table?

6. Was the Board's finding that it was not obvious to combine VB3 and Salton supported by substantial evidence?

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STATEMENT OF THE CASE

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This appeal involves the '604 and '775 patents. The patents relate to database technology that Enfish developed while building the DEXIS database engine for its award-winning products. Enfish developed the DEXIS database engine because the then-available database technologies were too inflexible and unable to store the varied types of structured and unstructured data that computer users needed to ENter, FInd and SHare ("Enfish"). *Investor's Business Daily* and *PC Magazine* praised Enfish's patented software. (A9815-16) Enfish's DEXIS-based products received accolades from many others, including computing pioneer Gordon Bell and leaders within Microsoft, who deemed Enfish a top competitor. (A9817-34; A9838.)

Enfish filed suit in 2012, accusing products built on Microsoft's ADO.NET of infringement. *Enfish, LLC v. Microsoft Corp.*, No. CV12-7360 MRP (MRWx) (C.D. Cal.). Enfish's appeal from the district court's final judgment is pending before this Court.

Microsoft filed five petitions for IPR against the two patents-in-suit. Case Nos. IPR2013-00559, IPR2013-00560, IPR2013-00561, IPR2013-00562, and IPR2013-00563. The Board instituted review of claims 1-26, 30-56, and 60 of both the '604 and '775 patents. In final written decisions issued in March 2015, the Board terminated the review of claims 1-26 and 30 of both patents for lack of jurisdiction to address means-plus-function claims under 35 U.S.C. § 112(f). (A14; A66; A101; A146-47; A176.) The Board could not, as Microsoft suggests, "find" that the claims are indefinite, as it lacked jurisdiction. *Microsoft Corp. v. Proxyconn, Inc.*, IPR2012-00026, Paper 17, at 15 (PTAB Dec. 21, 2012) (sufficiency of disclosure under 35 U.S.C. § 112 ¶ 6 is outside the scope of IPRs, which are limited to review under 35 U.S.C. §§ 102 and 103).

The Board found Microsoft failed to prove unpatentable claims 32-40, 43-45, 51-53, 55, 56, and 60 of the '604 patent and claims 32-40, 42-44, 51-53, 55, 56, and 60 of the '775 patent. (A50; A85; A132; A161; A190.) The Board determined claims 31, 41-42, 46-50 and 54 of the '604 patent and claims 31, 41, 45-50, and 54 of the '775 patent were unpatentable. (A51; A86; A132; A161; A191.) Microsoft

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sought rehearing of claims 32, arguing that the claims did not require a single table. The Board denied rehearing. (A1359-60; A1378-79.)

Microsoft appealed the Board's decisions on claims 32, 36-37, 43, 55, 56, and 60 of the '604 patent and claims 32, 36-37, 42, 55, 56, and 60 of the '775 patent ("the appealed claims"). Enfish cross-appeals the findings of unpatentability of claims 31, 48-50, and 54 of each patent, claims 41 and 46 of the '775 patent, and claim 42 of the '604 patent because the Board erred in construing the term object identification number ("OID") and based its finding on that incorrect construction.

STATEMENT OF FACTS

I.   Enfish's patents-in-suit

The '604 and '775 patents "relate[] generally to a method and apparatus for storing, retrieving, and distributing various kinds of data, and more particularly, to an improved database architecture and method for using the same." (A1469, 1:18-21.) The patents are continuations of the same parent and share a specification.

Enfish's invention differed from the then-existing main types of database systems in that it overcame the deficiencies of both the relational and object-oriented models and incorporated all data in a single, flexible, self-referential database. Both traditional database models had limitations—primarily that they were inflexible, having predefined structures and requiring that data items fit into pre-classified types. (*Id.* 2:4-15.) Prior art relational databases included "guidelines

for organizing data items ... which require that each data item be uniquely

classified as a particular instance of a 'relation'" ... with "each set of relations []

stored in a distinct [i.e., separate] table." (*Id.* 1:42-48.) Relational databases also

placed restrictions on data stored in a Relational Database Management System

("RDBMS"):

> [E]ach data item cannot have attributes other than those columns
> described for the table. Further, an item cannot point directly to another
> item. Instead, 'primary keys' (unique identifiers) must be used to
> reference other items. Typically, these restrictions cause RDBMS
> databases to include a large number of tables that require a relatively
> large amount of time to search.

(*Id.* 1:51-58.) The specification recounts similar limitations in object-oriented

databases: "Like the relational model, each data item must be classified uniquely as

belonging to a single class, which defines its attributes." (*Id.* 1:61-65.)

The Enfish patents claim a hybrid self-referential single-table structure that

overcomes the limitations of both the relational and object-oriented database

models. (*Id.* 2:23-29.) The Enfish patents' structure has features of both object-

oriented and relational database models and provides flexibility, allowing any type

of data to be stored in any structure. (*Id.* 2:44-65.) Each row and column of the

self-referential logical table has an OID that identifies that row or column. To

implement self-referentiality, the Enfish patents' table contains certain rows that

correspond to the columns of the *same table*. (A1471, 6:29-35; A1472, 7:16-19;

A1454, Fig. 3.) More specifically, each column is defined by its corresponding

row, which contains the column's properties, such as data type the column may contain, the column name, the column number, whether the column is required, and others. (*Id.*, 7:10-13.)

The illustrative logical table shown in Figure 3 of the specification describes the self-referential single-table structure of the Enfish patents, where row 136, whose OID is "#1019," (highlighted) contains information that defines column 126 (highlighted):

FIG. 3

The self-referential single-table structure of Enfish's patents is key to its flexible structure and ability to store any type of data. (A1469, 2:53-65.)

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II.   The appealed claims

Appealed claims 32, 36, and 37 of each patent depend from claim 31. Claim 31 of the '604 patent recites:

> 31. A method for storing and retrieving data in a computer memory, comprising the steps of:
>
> configuring said memory according to a logical table, said logical table including:
>
> a plurality of logical rows, each said logical row including an object identification number (OID) to identify each said logical row, each said logical row corresponding to a record of information;
>
> a plurality of logical columns intersecting said plurality of logical rows to define a plurality of logical cells, each said logical column including an OID to identify each said logical column; and wherein
>
> at least one of said logical rows has an OID equal to the OID to a corresponding one of said logical columns, and at least one of said logical rows includes logical column information defining each of said logical columns.

For the issues here, claim 31 of the '775 patent is the same. Claim 32 of each patent-in-suit adds the requirement that a column within the table must contain information for enabling determination of object identification numbers ("OIDs") from text entry:

> 32. The method of claim 31 wherein said logical column information defines one of said logical columns to contain information for enabling determination of OIDs from text entry.

Claims 36 and 37 of the '604 patent additionally recite using a logical row to define a different type of logical row and including pointers to other rows or other columns within the same table:

36. The method of claim 31 wherein:

at least one of said plurality of logical rows includes information defining the type of a different logical row; and

at least one of said plurality of logical rows includes a logical cell that contains a pointer to said logical row including logical row type information.

…

37. The method of claim 31 wherein at least one of said logical columns defines logical cells that include a plurality of pointers to other logical columns within the same record, said pointers indicating those logical columns within the same record that contain defined values.

For the issues here, claims 32, 36, and 37 of the '775 patent are the same.

Claim 42 of the '604 patent recites:

42. A method for storing and retrieving data in a computer memory, comprising the steps of:

configuring said memory according to a logical table, said logical table including:

a plurality of logical rows, each said logical row including an object identification number (OID) to identify each said logical row, each said logical row corresponding to a record of information;

a plurality of logical columns intersecting said plurality of logical rows to define a plurality of logical cells, each said logical column including an OID to identify each said logical column; and wherein

at least one of said logical rows contains a logical cell that contains a pointer to a different logical row and at least one of said logical rows includes logical column information defining each of said logical column; and

searching said table for said pointer.

Claim 43 of the '604 patent adds pointers to other columns within the table.

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43. The method of claim 42 wherein at least one of said logical columns defines logical cells that include a plurality of pointers to other logical columns within the same record, said pointers indicating those logical columns within the same record that contain defined values.

Appealed claim 42 of the '775 patent depends from claim 41, which reads:

41. A method for storing and retrieving data in a computer system having a memory, a central processing unit and a display, comprising the steps of:

configuring said memory according to a logical table, said logical table including:

a plurality of cells, each said cell having a first address segment and a second address segment;

a plurality of attribute sets, each said attribute set including a series of cells having the same second address segment, each said attribute set including an object identification number (OID) to identify each said attribute set;

a plurality of records, each said record including a series of cells having the same first address segment, each said record including an OID to identify each said record, wherein at least one of said records has an OID equal to the OID of a corresponding one of said attribute sets, and at least one of said records includes attribute set information defining each of said attribute sets; and

searching said table for said pointer.

Claim 42, similar to claim 43 of the '604 patent, adds pointers to other attribute sets within the same record of the table.

42. The method of claim 41 wherein at least one of said attribute sets defines cells that include a plurality of pointers to other attribute sets within the same record, said pointers indicating those attribute sets within the same record that contain defined values.

Appealed claims 55, 56, and 60 of each patent depend from claim 54, and claim 56 also depends from claim 55. Claim 54 of the '604 patent requires

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indexing data stored in a table and including at least one cell with a pointer to an

index record:

> 54. A method for storing and retrieving data in a computer memory, comprising the steps of:
>
> configuring said memory according to a logical table, said logical table including:
>
> a plurality of logical rows, each said logical row including an object identification number (OID) to identify each said logical row, each said logical row corresponding to a record of information;
>
> a plurality of logical columns intersecting said plurality of logical rows to define a plurality of logical cells, each said logical column including an OID to identify each said logical column; and wherein
>
> at least one of said logical cells includes a pointer to an index record; and
>
> indexing data stored in said table.

For the issues here, claim 54 of the '775 patent is the same. Claims 55, 56, and 60

of the '604 patent require indexing key words, locating an index record based on a

user's query, and indexing external documents:

> 55. The method of claim 54 wherein said step of indexing data further comprises the steps of:
>
> searching said table for a key word; and
>
> creating an index record for said key word, said index record having one or more pointers to a logical cell in said table that contains said key word.
>
> 56. The method of claim 55 further comprising the steps of:
>
> locating said index record according to the query of a user;
>
> retrieving at least one logical cell in said table pointed to by said located index record.
>
> …

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60. The method of claim 54 wherein said step of indexing data further comprises the step of:

indexing external documents.

For the issues here, claims 55, 56, and 60 of the '775 patent are the same. While not reproduced in their entirety, for the issues here, claim 46 of the '775 patent has the same OID limitations as those in claims 31 of both patents. (A1480-81; A1512.) Claims 48-50 of both patents depend from claims 47, which also contain the same OID limitations as those in claims 31 of both patents. (*Id.*)

III. The IPR proceedings

A. The Board's claim construction of "OID" and findings of unpatentability

In its institution decisions, the Board construed the term "OID" to mean "an array of bits that define an object."[1] (A816[2].) In its Patent Owner Responses, Enfish argued that the construction did not take into account several requirements of an OID in the Enfish system. (A969.) Enfish proposed a construction that included four necessary aspects of an OID, as "a unique, immutable, and system-generated value that identifies an object." (A970.) Enfish presented intrinsic evidence that an OID must be (1) an identifier, (2) system-generated, (3) unique;

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[1] In IPR2013-00563, the Board construed "identification number" to mean "an array of bits that define" and declined to provide an express construction of "object." (A849.)

[2] Where the Board decisions and parties' arguments are the same regarding all five IPRs, Enfish cites to IPR2013-00562.

and (4) immutable. (A970-73.) Enfish also presented extrinsic evidence of these requirements through Dr. H.V. Jagadish, the Galler Collegiate Professor of Electrical Engineering and Computer Science at the University of Michigan. (*Id.*) Microsoft's expert, Dr. Hosking, confirmed the four OID requirements. (*Id.*)

In its final written decisions, the Board did not change its construction of OID. (A17.) Relying on its construction of OID, the Board found that Chang anticipated claims 31. (A25-26.) The Board's obviousness findings for claims 41, 46, 48-50 and 54 of the '775 patent (A111; A179-81) and claims 42, 48-50 and 54 of the '604 patent applied similar rationale to Chang and VB3.[3] (A28-30; A69-71.)

B.   The Board's findings regarding Microsoft's appealed claims

Claims 32. The Board determined that Microsoft did not prove claims 32 were anticipated by Chang because Chang did not disclose logical column information defining "one of said logical columns to contain information for enabling determination of OID's from text entry" in a single table. (A26-27; A111-13.) It concluded that Chang did not disclose the index function in either table that Microsoft identified as the structure that satisfied the limitation. (*Id.*) Microsoft sought rehearing and the Board denied its motions. (A1359-60; A1378-79.)

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[3] Claims 48-50 of both patents depend from claims 47, which contain the OID term, and to the extent this Court reverses the Board's construction of OID, this Court should reverse the unpatentability determinations of claims 48-50 of both patents.

Claims 36 and 37 of each patent, and claim 42 of the '775 patent. The Board found that claims 36 were not obvious in light of the teachings of Chang and Goldberg and that claims 37 were not obvious in light of the teachings of Chang and Anderson. (A42-46; A122-26.) The Board determined that Chang did not meet claims 36's requirement that a single table contain both "at least one of said plurality of logical rows" and the "different logical row." (A43; A124.) The Board also credited Enfish's evidence and Dr. Jagadish's testimony showing that a person of ordinary skill in the art (POSITA) would understand "pointer" in claims 37 to mean "a variable that stores an address to a location where an object resides." (A45-46; A125-26.) It concluded that Microsoft had not demonstrated that the teachings of Chang and Anderson disclosed a pointer and found that Microsoft failed to prove claims 37 unpatentable. (*Id.*) It found that Microsoft failed to prove claim 42 of the '775 patent unpatentable for the same reasons. (A126.)

Claim 43 of the '604 patent. The Board concluded that Microsoft did not prove claim 43 of the '604 patent unpatentable because it relied on two different tables in Chang to show the limitations of claim 43. (A31.)

Claims 55, 56, and 60. The Board concluded that Microsoft had not presented sufficient rationale to combine VB3 and Salton and found Microsoft did not carry its burden to show claims 55, 56, and 60 unpatentable. (A76-78; A183-86.) The Board noted that Microsoft had not addressed Enfish's evidence, which showed that Salton taught away from a combination with VB3. (A78; A185.)

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SUMMARY OF ARGUMENT

I.   **The Board erred in construing "OID" and in finding claims of Enfish's patents unpatentable based on that construction**

"Object identification number," or "OID," is a technical term in the database arts. The Board erred by construing OID as an "array of bits that define an object." (A17.) The Board's erroneous claim construction was central to its conclusion that claims 31, 42, 48-50 and 54 of the '604 patent and claims 31, 41, 46, 48-50 and 54 of the '775 patent were unpatentable. (A22-26, A28-30, A69-71, A107-11, A179-81.)

The Board's construction of "OID" contained four errors. First, the Board erred by construing an OID to "define" an object because the claim language requires the OID to "identify" an object. Second, the Board erred by failing to find that the claimed OID must be "unique." Third, the Board erred by failing to find that the claimed OID must be "system-generated." Fourth, the Board erred by failing to find that the claimed OID be "immutable."

The intrinsic and extrinsic evidence supports Enfish's construction of OID. The claims require that "each said logical row includ[e] an object *identification* number (OID) to *identify* each said logical row" and "each said logical column includ[e] an OID to *identify* each said logical column." (A1480, cl. 31 (emphasis added).) Enfish also presented intrinsic evidence showing that the specification

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requires that an OID be both *unique* and *system-generated*. (A970-73.) And Enfish

presented intrinsic and extrinsic evidence showing that an OID must be immutable.

(A970, A971-72.)

The Board based its incorrect determinations of unpatentability on its

erroneous construction of OID. This Court should reverse the Board's construction

of OID and adopt Enfish's construction as "a unique, immutable, and system-

generated value that identifies an object." (A969-70.) Further, this Court should

hold that claims 31, 42, 48-50, and 54 of the '604 patent and claims 31, 41, 46, 48-

50, and 54 of the '775 patents are not unpatentable because there is no evidence to

support a finding of unpatentability under Enfish's construction of OID.

II.   The Board's finding that Chang did not anticipate claims 32 was based on substantial evidence

The Board's determination that Chang did not anticipate claims 32 was

based on substantial evidence showing that Chang did not contain all of the

limitations of claims 32 within a single table. (A26-27; A111-13.) This Court

should affirm the Board's decision for this reason alone.

Microsoft makes three new arguments on appeal, none of which is properly

before this Court. "It is well-established that a party generally may not challenge

an agency decision on a basis that was not presented to the agency." *In re DBC*,

545 F.3d 1373, 1378 (Fed. Cir. 2008) (citing *Woodford v. Ngo*, 548 U.S. 81, 90

(2006)). This Court does not consider arguments not presented to the Board. *In re Baxter Int'l, Inc.*, 678 F.3d 1357, 1362 (Fed. Cir. 2012). First, Microsoft contends that Chang's SYS.COLUMNS table alone anticipates claims 32. (Appellant's Br. at 34.) Second, Microsoft contends that Chang's SYS.TABLES table alone anticipates claims 32. (*Id*. at 34-35.) Third, Microsoft argues the Board improperly construed "text entry" to require text entry followed by searching. (*Id*. at 36-42.) The first two arguments are waived and the third argument alleges error that Microsoft invited. As a result, none of these arguments are properly before this Court and, even if considered, each argument lacks merit and should be rejected.

III.   The Board's finding that Microsoft failed to prove claims 36 of each patent were obvious is based on substantial evidence

The Board's determination that claims 36 were not unpatentable is based on substantial evidence. Claims 36 require all the limitations be found in one table and the Board found that Microsoft relied on more than one table in attempting to show unpatentability. (A43, A124.) Microsoft's sole argument on appeal for claims 36 is a new, waived claim construction argument that the "different logical row/record" element of claims 36 can be met by more than one table. Microsoft's new claim construction lacks intrinsic support. This Court should affirm the Board's finding that claims 36 were not obvious.

IV.   The Board's determination that Microsoft failed to prove claims 37 of each patent and claim 42 of the '775 patent obvious is based on substantial evidence

The Board's determination that the combination of Chang and Anderson did not render claims 37 of each patent and claim 42 of the '775 patent obvious is based on the substantial evidence that neither Chang nor Anderson teaches the claimed "pointer." The Board's findings based on its construction of the claim term "pointer" as a "variable that stores the address where another object resides" are supported by substantial evidence. (A45, A126.) Microsoft's argument on appeal is that the Board's "pointer" construction is too narrow, but the Board's construction is supported by intrinsic evidence, expert testimony, and authoritative texts and should be upheld. This Court should affirm the Board's finding that claims 37 of each patent and claim 42 of the '775 patent were not unpatentable.

V.   The Board's determination that Microsoft failed to prove claim 43 of the '604 patent obvious is based on substantial evidence

The Board's conclusion that the teachings of Chang and Horn do not render claim 43 of the '604 patent obvious is supported by substantial evidence. Microsoft does not challenge the Board's finding that claim 43 requires a single table, yet it relied below on portions of three separate tables in an attempt to show unpatentability. (A30-31.) The Board rejected Microsoft's arguments for that reason. (*Id.*) Microsoft now presents a new and waived argument that SYS.TABLES in Chang alone discloses the elements of claim 43. If considered,

this argument fails because (1) Microsoft still relies on two tables, SYS.TABLES and EMP, to show the claimed "defined values"; (2) Microsoft relies on the packed descriptor of SYS.TABLES, which does not indicate whether a column in SYS.TABLES has defined values; and (3) Microsoft's new SYS.TABLES argument fails to show pointers that indicate logical columns with the same record that contain defined values. This Court should affirm the Board's finding.

VI.   The Board's determination that Microsoft failed to prove Salton and VB3 rendered claims 55, 56, and 60 obvious is based on substantial evidence

The Board determined that claims 55, 56, and 60 were not obvious over Salton and VB3 based on substantial evidence that a POSITA would not combine the teachings of Salton with VB3. (A79, A186.) The Board correctly concluded that Microsoft did not articulate a rational basis to combine the teachings of Salton with VB3, and failed to rebut Enfish's evidence of their lack of combinability. (*Id*.) On appeal, Microsoft presents new and waived arguments contending that the Board should have taken into account the "common sense" of a POSITA. Even if considered, Microsoft's arguments do no more than allege Salton and VB3 are analogous art, which by itself is legally insufficient to show obviousness. This Court should affirm the Board's findings that claims 55, 56, and 60 were not obvious over Salton and VB3.

ARGUMENT

I.   The Board erred in finding the claims of the '604 and '775 patents were unpatentable

This Court should reverse the Board's determination that claims 31, 42, 48-50 and 54 of the '604 patent and claims 31, 41, 46, 48-50, and 54 of the '775 patent were unpatentable because the Board applied an erroneous construction of the claim term "object identification number," or "OID," in its patentability analysis.[4] The Board's construction of OID as an "array of bits that define an object" suffers from four separate errors. Each error should be considered individually and each error alone requires reversal.

First, the Board erred by improperly requiring that the OID "define" an object, which conflicts with the claim language that requires the OID "identify" an object. **Second**, the Board erred by failing to require that the claimed OID be "unique," which is required by the specification. **Third**, the Board erred by failing to require that the claimed OID be "system-generated," which is required by the specification. **Fourth**, the Board erred by failing to require that the claimed OID be "immutable," which is required by the specification and extrinsic evidence. The Board's improper construction of OID resulted in erroneous findings of

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[4] Because the Board relied on an improper finding of OID to find the independent claims unpatentable, the Board's unpatentability determinations of all claims depending from these claims would also need to be reversed.

unpatentability of the independent claims of the '604 and '775 patents, and therefore the claims that depend from them, and those findings should be reversed.

The proper construction of OID is a legal issue reviewed *de novo*, as are the teachings of the intrinsic evidence requiring OID to identify, to be unique, to be system-generated, and to be immutable. *Teva Pharms. U.S.A., Inc. v. Sandoz, Inc.*, 135 S. Ct. 831, 841 (2015) (holding claim construction based on intrinsic evidence is reviewed *de novo*). The Board relied solely on intrinsic evidence in reaching its construction of OID (A17 (citing '604 Patent at 3:33-35, 8:35-37)) so review of any factual findings underlying the Board's claim construction of OID is also *de novo*. *Teva*, 135 S. Ct. at 841.

A.   The Board erred in construing the claim term OID to "define" an object, rather than "identify" an object

The Board improperly construed the claim term OID to "*define* an object" instead of *identify* an object. (A17 (emphasis added).) This Court should adopt Enfish's construction of OID as a "value that identifies an object." Enfish's construction is required by the claims, and consistent with the specification, Microsoft's position, and the Board's discussion of the claimed invention.

1.   Enfish's proposed construction of OID as identifying an object is required by the claim language and consistent with the specification

Enfish argued that OID should be construed as "a unique, immutable, and system-generated value *that identifies an object*." (A969-70 (emphasis added).)

The patented system "provided object identifiers (OIDs) to allow users to freely represent relationships between any sets of data in the database." (A966.) Each row and column in Enfish's database was assigned an object identifier to reference that row or column. (*Id*.) Enfish explained this means "an 'OID' must be a unique *identifier*" to serve its purpose of allowing exact retrieval of objects without having to rely on information in an object. (A966; A970 (emphasis added).) The claim language and specification support Enfish's identifier construction of OID.

a. The claim language requires that OIDs identify

The language of the claims requires that OIDs identify rows or columns, rather than define them. (A966.) The most important intrinsic evidence in claim construction is the claim language itself. *Phillips v. AWH Corp.*, 415 F.3d 1303, 1312 (Fed. Cir. 2005) (*en banc*).

The claims of the '604 and '775 patent reflect the use of OIDs as identifiers by requiring that "each said logical row includ[e] an object *identification* number (OID) to *identify* each said logical row" and "each said logical column includ[e] an OID to *identify* each said logical column." (A1480 cl. 31 (emphasis added); A1511 cl. 31; A966 (citing claim 1 for the same language).) The claims of the '604 and '775 patents refer to OIDs only as identifiers.

The claims distinguish between OIDs, used as identifiers, and other information used to define aspects of the claimed table. Claim 31 is representative

and refers to "logical column information" in rows "defining each of said logical

columns." (A1480 cl. 31; A1511 cl. 31.) The claims also refer to the intersection of

rows and columns defining logical cells. *Id*. Claim 31 of the '604 patent,

reproduced below, highlights the difference between OIDs used to identify a row

or column (**in bold**) and logical column information used to define (<u>underlined</u>):

> 31. A method for storing and retrieving data in a computer
> memory, comprising the steps of:
>> configuring said memory according to a logical table, said
>> logical table including:
>>> a plurality of logical rows, **each said logical row**
>>> **including an object identification number (OID) to**
>>> **identify each said logical row,** each said logical row
>>> corresponding to a record of information;
>>> <u>a plurality of logical columns intersecting said plurality</u>
>>> <u>of logical rows to define a plurality of logical cells,</u>
>>> **each said logical column including an OID to**
>>> **identify each said logical column**; and wherein
>>> at least one of said logical rows has an OID equal to the
>>> OID to a corresponding one of said logical columns,
>>> and <u>at least one of said logical rows includes logical</u>
>>> <u>column information defining each of said logical</u>
>>> <u>columns</u>.

(A1480 (emphasis added).)

The Board's construction of OID as "defining" conflicts with the claim

language describing OIDs as object identifiers, while other information defines

those objects. The claim language makes clear that the claimed concepts of

identifying and defining are distinct, and that OIDs are identifiers, not definers.

b.   The specification confirms OIDs are used to identify

The specification supports Enfish's proposed construction of OIDs as identifiers. (A970.) After the claims themselves, the specification is the next most important source of intrinsic evidence in claim construction. *Phillips*, 415 F.3d at 1312.

The specification expressly defines an OID as an "object *identification* number." (A970 (emphasis added); A1469, 1:65-2:1, 2:54-55; A1471, 6:42-45.) The specification also describes OIDs' use for identification of, or "pointers to," rows, columns, and cells. For example, the specification teaches that object identification numbers are "[k]ey features of the object oriented [database] model" "that can be used for exact retrieval" of objects. (A970; A1469, 1:65-2:1.) The specification makes clear that OIDs are "pointers," (A1472, 8:51-52) and are distinct from other types of information in the table of the claimed invention, such as text, numbers, or dates. (A1471, 6:57-61 ("Standard domains supported in most database systems include text, number, date, and Boolean. The present invention includes *other types of domains such as the OID domain that points* to a row or column.") (emphasis added).) And "a cell identification number may be of the format <record OID, column OID>." (A1474, 12:20-22.) The specification goes on to state that "the OID of the record equals the *identification* number." (A1474, 12:36-37 (emphasis added).) Pointers are used for identification, not definition.

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(A7882-84 ("A pointer stores an address—a binary number that the operating system uses to *identify* a memory cell) (emphasis added); A9764-66 (same).)

The specification's teaching that OIDs are identifiers, used as pointers or for retrieval, supports Enfish's claim construction of OIDs as identifiers.

2.   Microsoft proposed a construction of OIDs as identifiers

Microsoft agrees that OIDs are unique identifiers. (A970-71; A214-15.) In its Petitions, Microsoft proposed a definition of OID as "a value that *identifies* an object." (A215 (emphasis added).) Microsoft noted the patents' "'specification describes the OID as '*a unique object identification number* stored' in a column and row.'" (A971 (quoting A214) (emphasis added).)

3.   The Board acknowledged OIDs are identifiers, yet construed OID as defining an object

In its Final Written Decisions, the Board acknowledged that "each of the independent claims recites that an OID is included 'to identify' each logical row and each logical column." (A18-19.) The Board noted that while OIDs act as pointers, column definitions determine the properties of the columns:

> A column definition determines the specific properties of a column. *Id.* at 7:11-14. For example, column 126 is defined as having a label "Employed By" (from the cell at column 124, row 136). The "Employed By" column contains employer information and OID [1019], and is defined by the record at corresponding row OID 1019, where column OID [1019] acts as a pointer to the record, thereby making the table self-referential. *Id.* at 7: 16-19.

(A5.)

The Board also stated "[t]he importance of the unique OID's is that they act as direct pointers to other records, which eliminates the necessity for a query to search through unrelated columns, rows, and cells for additional related data." (A5 (citing A1472, 8:51-54).) In other words, OIDs' function as identifiers is separate from the data stored in columns, rows, and cells.

Despite the claim language, specification, parties, and Board all agreeing that OIDs *identify* objects (*supra* at §§ I(A)(1)-(3)), the Board erroneously construed OID as *defining* an object, so its construction should be reversed.

4.   The Board's construction of OIDs as "defining" an object renders limitations of the claims superfluous

Not only do the claims expressly state OIDs identify (*supra* at §I(A)(1)(a)), the Board's construction of OIDs *defining* objects conflicts with the claim language by rendering the claims' defining limitations superfluous. This Court reverses claim constructions that render other claim terms superfluous. *Stumbo v. Eastman Outdoors, Inc.*, 508 F.3d 1358, 1362 (Fed. Cir. 2007). This is because claims should be construed to give effect to all terms in the claim. *Bicon, Inc. v. Straumann Co.*, 441 F.3d 945, 950 (Fed. Cir. 2006).

The independent claims already contain non-OID limitations for defining cells and columns. (A1480 cl. 31.) For example, claim 31 of the '604 patent requires "a plurality of logical columns intersecting said plurality of logical rows to *define a plurality of logical cells*." (*Id.* (emphasis added).) The claim goes on to

state that "at least one of said logical rows *includes logical column information defining each of said logical columns*." (*Id*. (emphasis added).) These "defining" claim limitations make clear that when the claims intend a limitation to define an object—such as a row, column, or cell—they express that intent clearly. By requiring OIDs to also define objects, the Board's construction renders the object-defining limitations superfluous. This is error. *Stumbo*, 508 F.3d at 1362.

The difference between identification and definition can also be seen in Figure 3. *See supra* at 7-8; (A1454.) The row (136) identified by OID "#1019" is defined to be of the type "Field" identified by OID "#210" and to have the label "Employed By." (A1454.) The row (135) identified by OID "#210," is defined as a type of "COLUMN." (*Id*.) As can be seen, the type and label information in row (136) defined column (126) as a column labeled "Employed By," while both the row and column are identified by OID "#1019." (*Id*.) The OID plays no role in defining the row or column; it is only an identifier. (*Id*.; A7814 ¶¶ 36-38 (OIDs allow users to reference objects without relying on the data itself); A9695 ¶¶ 36-37 (same).)

5.   The Board misconstrued the specification

The Board's reliance on the specification to construe OIDs as definers is mistaken. (A17.) Unless the specification "clearly, deliberately, and precisely" spells out how a claim term is to be used, the plain and ordinary meaning of the

claims controls. *Merck & Co. v. Teva Pharms. USA, Inc.* 395 F.3d 1364, 1379 (Fed. Cir. 2005). Here the independent claims and the specification repeatedly refer to OIDs as identifying objects, not defining them. (A1469, 1:65-2:1, 2:54-55; A1472, 8:7-9; A1480 cl. 31.) Neither portion of the specification on which the Board relied supports reaching a different conclusion.

The first portion of the specification on which the Board relied to support its construction of OIDs as definers is the brief description of Figure 4. (A17 (citing A1470, 3:33-35.) It states "FIG. 4 is a flow chart for a method of computing object identification numbers (OID's) that define rows and columns in the table of FIG. 1." (A1470 3:33-35.) This brief description of Figure 4 is at best only of **a** method of computing OIDs, and cannot overrule the claim language's requirement to the contrary that OIDs identify rather than define. *SuperGuide Corp. v. DirecTV Enters., Inc.*, 358 F.3d 870, 875 (Fed. Cir. 2004) (the specification "is not a substitute for, nor can it be used to rewrite, the chosen claim language"); *supra* § I(A)(1)(a).

The caption in Figure 4 is inconsistent with the detailed description of Figure 4. The detailed description of Figure 4 discusses assigning OIDs based on when a record is created. (A1472, 8:5-47.) There is no discussion about using information in a record to generate an OID or using the OID to generate information in a record. (*Id.*) Instead, the detailed description of Figure 4 focuses

on ensuring OIDs are unique across the database. (A1472, 8:7-9 ("the system must generate a unique OID … FIG. 4 is a flow chart of the method for assigning OID's")). The uniqueness of OIDs is critical to their function as identifiers. (A1472, 8:50-54.)

The caption in Figure 4 is also inconsistent with the rest of the specification, which uses OID in the context of identification, not definition. Figure 1 referenced in the brief description of Figure 4 is not a table. But the description of Figure 3, which does disclose the table of the present invention, explicitly describes OIDs as identifiers. (A1471, 6:42-50.) The specification also distinguishes between OIDs as pointers and other types of information in the table (A1471, 6:57-61) that could be used to define an object. (A1480, 23:29-31.)

The second portion of the specification on which the Board relied to support its construction of OIDs as "defining" fares no better. (A17 (citing A1472, 8:35-37).) This portion of the specification deals with the OID being "a bit array" based in part on "the session identification, timestamp and tiebreaker." (A1472, 8:35-37.) Nothing in this portion suggests that OIDs define objects.

6. The Board's improper construction of OIDs as defining objects harmed Enfish

The Board's erroneous construction of OID as defining an object resulted in the Board improperly finding the claims 31, 42, 48-50 and 54 of the '604 patent and 31, 41, 46, 48-50 and 54 of the '775 patent were unpatentable. (A22-26; A28-

30; A69-71; A107-11; A179-81.) For example, the Board determined Chang anticipated claims 31 using information in the rows of Chang's SYS.COLUMNS table (the column number and column name) to show OIDs. (A26.) But the column number and column name information in Chang's SYS.COLUMNS rows is what Chang uses to define columns—not identify them. (A3773 (Figure 3 SYS.COLUMNS row 13 defining Col. Name (24) "EMP NO" and Col. No. (25) "1" defining the first column "EMP NO" of the Employee Table in Figure 1); A3764, 2:4-16; A3765, 3:41-57; A3767, 8:45-50.) There is no disclosure of any identifier in Chang's SYS.COLUMNS table. Under the proper construction of OID as an identifier, the Board's combination of Chang's column number and column name that define columns would not anticipate claims 31. The Board used a similarly flawed rationale to invalidate the other claims of Enfish's patents over Chang and VB3. (A22-26; A28-30; A69-71; A107-11; A179-81.)

The Board's reliance on the specification to rewrite OIDs from identifying objects to defining them was error. This Court should reverse the Board's construction of OID as defining an object and enter a construction of OID as "a unique, immutable, and system-generated value that *identifies an object*." (A969-71 (emphasis added).)

B.   The Board erred by failing to require that the claimed OID be unique

The Board misapplied the law by failing to find that the claim term "OID" be unique. (A17.) This Court should adopt Enfish's construction of OID or "object identification number" as "*a unique*, immutable, and system-generated *value* that identifies an object." (A969-71 (emphasis added).)

1.   The specification requires Enfish's proposed construction of OID as unique

Enfish argued that the specification required OID or "object identification number" to be construed as a "*unique* … value that identifies an object." (A969-71 (emphasis added).) Where, as here, the specification uses words of requirement in describing a claim term, this Court has found those requirements to be definitional, limiting the claims through disavowal of claim scope. *Pacing Techs., LLC v. Garmin Int'l, Inc.*, 778 F.3d 1021, 1024-25 (Fed. Cir. 2015) (citing cases). As a result, this Court should construe OIDs to be "unique."

At least three portions of the specification require OIDs to be unique. (A970-71 (citing A1469, A1472).) First, the specification states that "the system *must generate a unique OID* when columns and rows are formed." (A1472, 8:7-9 (emphasis added).) This Court has found similar specification disclosure of steps being "'require[d]'" for "'successful manufacture'" to limit claim scope through disavowal. *Pacing Techs.*, 778 F.3d at 1024 (quoting *Andersen Corp. v. Fiber*

Composites, LLC, 474 F.3d 1361, 1367 (Fed. Cir. 2007)). The specification

disclosure alone is sufficient to find that OIDs must be unique.

Second, the specification's disclosure of *unique* OIDs in the context of the

present invention as a whole is limiting. Where, as here, the specification describes

the characteristics of the invention as a whole—rather than in the context of a

particular embodiment—this Court finds disavowal of claim scope. *Pacing Techs.*,

778 F.3d at 1024-25. The patents teach that the "FIG. 3 illustrates *the* storage and

retrieval structure of *the* present invention." (A1471, 6:29-30 (emphasis added).)

Within *the* structure of the present invention "[e]ach row is assigned a *unique*

object identification number (OID) stored in column 120 and each column also is

assigned a *unique* OID, indicated in brackets and stored in row 108." (*Id.*, 6:42-45

(emphasis added).) The specification's disclosure of unique OIDs in the context of

the invention as a whole limits OIDs to being unique. *Pacing Techs.*, 778 F.3d at

1024-25.

Third, the patents state that one of the "[k]ey features of the object oriented

[database] model" in general is that "*each item has a unique* system-generated

object identification number." (A1469, 1:65-67 (emphasis added).) This disclosure

of unique OIDs as a "key feature" of object-oriented databases in general is

consistent with the specification's requirement that the OIDs in the claimed

invention are limited to unique identifiers.

When the specification's disclosure that the system must generate unique OIDs is combined with the specification's teaching that unique OIDs are a key feature of object-oriented databases, a finding of claim scope disavowal is required and the construction of OID must be limited to unique identifiers.

2. The fact that a row and a column in a table have the same OID is not inconsistent with uniqueness

Several of the Board panels that reviewed the claims appear to have credited Microsoft's mistaken argument that the claims' requirement that a column, and the row that defines it, have an equal OID means OIDs need not be unique. (A18.) But the fact that both a row and a column defined by that row have the same OID does not mean the OID is not unique. In an object-oriented database, a row that defines a column and that column are the same entity; thus, the row/column has one unique OID. (A1451, abstract; A1454, Fig. 3; A1469, 2:60-64.)

As the Board panel in the IPR2013-00559 proceeding correctly recognized, the fact that rows and columns in the Enfish patents have the same OID is "the particular aspect of the table being self-referential." (A102-03.) The specification is clear that "[t]o enhance searching and to provide for synchronization between columns, *columns are entered as rows in the table.*" (A1469, 2:60-64 (emphasis added).) There is nothing inconsistent with the claim language and the specification's requirement that OIDs be unique. (A103.)

3. The Board misapplied the law of claim construction by refusing to find disavowal in light of the specification's requirement that OIDs be unique

The Board misapplied the tenet of claim construction that "limitations are not to be read into the claims from embodiments in the specification" in refusing to construe OIDs to require uniqueness. (A18 (citing *In re Van Geuns*, 988 F.2d 1181, 1184 (Fed. Cir. 1993).) As the Board noted, the prohibition of reading limitations from the specification into the claims is not absolute. (A8-9 (citing *Phillips*, 415 F.3d at 1316).) Reading limitations from the specification into the claims is appropriate in two contexts: lexicography and disavowal. *Pacing Techs.*, 778 F.3d at 1024-25. Where the specification uses words of requirement for a claim term, this Court finds disavowal. *Id*. This Court also finds disavowal where the specification describes characteristics of the invention "as a whole"—rather than in the context of a particular embodiment. *Id*. The Enfish patents' specification invokes both of these disavowal triggers—using words of requirement to describe OIDs as unique and discussing unique OIDs in the context of the invention as a whole.

First, as set out above, the specification mandates that the system generate unique OIDs. (A1472, 8:7-9 ("system *must generate a unique OID*") (emphasis added).) This mandatory specification disclosure regarding OID acts as a disavowal limiting OIDs to being unique. *Supra* at § I(B)(1).

Second, the specification discusses unique OIDs in the context of the invention as a whole. (A1471, 6:29-30, 6:42-45 (emphasis added).) This disclosure of unique OIDs in the context of the invention as a whole limits OIDs to being unique. *Supra* at § I(B)(1).

The claim construction tenet refusing to import limitations into the claims that relate to only _some_ embodiments is inapplicable here (A18), where the specification requires that _all_ embodiments include unique OIDs.

>   **4.   The Board's refusal to adopt Enfish's construction of OID as being unique is entitled to *de novo* review because the Board's construction is not based on extrinsic evidence**

The Board did not base its refusal to construe OID as unique on any extrinsic evidence and the construction should be reviewed *de novo*. *Teva*, 135 S. Ct. at 841. The extrinsic evidence supports the specification's requirement that OIDs be unique. (A969-71.) Enfish provided expert testimony that OIDs must be unique. (A7816-20; A9697-702.) Enfish also provided three authoritative database texts and Microsoft's own product literature that supported Enfish's construction of OID as unique. (*Id*.) The Board made no findings of fact regarding this extrinsic evidence supporting the requirement that OIDs be unique. (A17-18.) As a result, the Board's improper construction of OID is entitled to *de novo* review.

The Board's failure to construe OID as being a unique value is contrary to the claims and the specification, and harmed Enfish. This Court should reverse the

Board's construction of OID and enter a construction of OID as "*a unique*, immutable, and system-generated *value* that identifies an object." (A969-71 (emphasis added).)

C. The Board erred by failing to require that the claimed OID be system-generated.

The Board made the same mistake in failing to acknowledge words of requirement in the specification that require OIDs to be system-generated as it did in failing to require that OIDs must be unique. (A17; *supra* at § I(B).) This Court should adopt Enfish's construction of OID or "object identification number" as "a unique, immutable, and *system-generated value* that identifies an object." (A969-70 (emphasis added).)

1. Enfish's proposed construction of OID as "system-generated" is required by the specification.

In its Patent Owner Responses, Enfish argued that the specification required OID to be construed as a "*system-generated* value that identifies an object." (A969-70, A972-73 (emphasis added).) The specification uses words of requirement in describing OID as system-generated, which are definitional and limit the scope of OID through disavowal. *Pacing Techs.*, 778 F.3d at 1024-25.

The specification states that "the *system must generate a unique OID* when columns and rows are formed." (A972-73 (citing A1469, A1472, 8:7-9 (emphasis added)).) This mandatory language evidences a disavowal of claim scope,

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requiring OIDs to be system-generated. *Pacing Techs.*, 778 F.3d at 1024; *supra* at

§ I(B)(1).

In addition, the patents state that one of the "[k]ey features of the object

oriented [database] model" in general is that "*each item has a* unique *system-*

generated object identification number." (A1469, 1:65-67 (emphasis added).) This

disclosure of system-generated OIDs as a "key feature" of object-oriented

databases in general is consistent with the specification's requirement that the

OIDs in the claimed invention are limited to system-generated identifiers.

2.   The Board misapplied the law of claim construction by refusing to find disavowal in light of the specifications' requirement that OIDs be system-generated.

The Board misapplied the same tenet of claim construction in refusing to

construe OIDs to be system-generated as it did in failing to require OIDs be

unique. (A18 (citing *In re Van Geuns*, 988 F.2d at 1184)); *supra* at § I(B)(3).) The

Board improperly relied on the claim construction tenet that limitations relating to

only *some* embodiments are not to be imported into the claims. (A18.) This claim

construction tenet relating to *some* embodiments is inapplicable here, where the

specification evidences claim scope disavowal by using mandatory language

requiring that *all* embodiments include system-generated OIDs.

First, the patents require that "the *system must generate a unique OID* when

columns and rows are formed." (A1472, 8:7-9 (emphasis added).) This mandatory

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language acts as a disavowal, requiring OIDs be system-generated. *Pacing Techs.*, 778 F.3d at 1024; *supra* at § I(C)(1). Second, the specification's discussion of system-generated OIDs in the context of object-oriented databases in general, (A1469, 1:65-2:1; A1472, 8:7-9) is consistent with the specifications' mandate that OIDs be system-generated.

3. The Board's refusal to adopt Enfish's construction of OID as being system-generated is entitled to *de novo* review because the Board's construction is not based on extrinsic evidence

The Board's construction of OID that fails to require it be system-generated should be reviewed *de novo* because the Board did not rely on any extrinsic evidence. *Teva*, 135 S. Ct. at 841. The extrinsic evidence of record supports the specifications' requirement that OIDs be system-generated. (A969-70.) Enfish provided expert testimony that showed OIDs are system-generated. (A7822-24; A9703-05.) Enfish also provided two authoritative texts and Microsoft's own product literature that supports OIDs being system-generated. (*Id.*) But the Board made no findings of fact regarding this extrinsic evidence supporting the requirement that OIDs be system-generated. (A17-18.) As a result, the Board's improper construction of OID is entitled to *de novo* review.

The Board's failure to construe OID as being a system-generated value is contrary to the specification and harmed Enfish. This Court should reverse the Board's construction of OID and enter a construction of OID as "a unique,

immutable, and *system-generated value* that identifies an object." (A969-71 (emphasis added).).

D.   The Board erred by failing to require that the claimed OID be immutable

The Board erred by failing to require that OIDs be immutable. (A17.) This Court should adopt Enfish's construction of OID or "object identification number" as "a unique, *immutable*, and system-generated *value* that identifies an object." (A969-70 (emphasis added).) It is undisputed that OID is a technical term of art. Enfish provided extrinsic evidence showing that POSITAs understand that OIDs are immutable. Microsoft presented no extrinsic evidence that contradicts the industry understanding of OIDs being immutable. And the intrinsic evidence is consistent with the extrinsic evidence showing OIDs are immutable. The Board erred by failing to give this extrinsic evidence any weight and did not address the intrinsic evidence in reaching its construction of OID.

1.   OID is a technical term of art

The specification shows that "object identification numbers" or "OID" is a term of art in the database industry. (A1469, 1:65-2:1.) Both Enfish's and Microsoft's experts agree that OID is a technical term of art. (A971-72; A7988:18-A7989:4); A9322:15-A9323:2; A9323:5-A9324:8; A7816 at ¶ 46 ("'OID' and 'object identification number' are well known terms of art"); A9698 (same).)

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2.   The extrinsic evidence shows OID is understood to be immutable by POSITAs

Enfish presented expert testimony and other extrinsic evidence that showed OID is understood in the industry to require immutability. (A7816 at ¶ 46 ("'OID' and 'object identification number' are well known terms of art"); A9698 (same).) Extrinsic evidence, and expert testimony in particular, is appropriate in claim construction "to establish that a particular term in the patent or prior art has a particular meaning in the pertinent field." *Phillips*, 415 F.3d at 1318. The Board's construction of OID, which does not require immutability, is contrary to the parties' expert testimony and the extrinsic evidence.

There are two aspects to the immutability of OIDs: (1) OIDs are not user modifiable and (2) OIDs are not changed by the system once created. (A971-72.) First, both Enfish's and Microsoft's experts agree OIDs as generally understood in the art are not user modifiable. (A972; A7988:18-A7989:4) ("the OID is of value, that *the user cannot modify it or change it*") (emphasis added); A7820-22; A9702-03.) The other extrinsic evidence of record also shows that OIDs are understood as not user modifiable. Dr. Jagadish testified that OID is understood by POSITAs to not be modifiable. (A7820-22; A9702-03.) Authoritative texts also support a POSITA's understanding of OID as being immutable. (*Id.*) For example, *Introduction to Database and Knowledge-Base Systems*, published in 1992, states that an OID does not change even if other properties of the object change: "The

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main property required of an OID is that it be **immutable**; that is, the OID value of a particular object should not change." (A8569 (emphasis in original).) *Database Systems: An Application Oriented Approach*, published in 2005, also describes OIDs as non-changing: "[E]very object has a unique and *immutable identity, called the object Id (oid)*, which is independent of the actual value of the object. The oid is assigned by the system when the object is created and *does not change during the object's lifetime.*" (A8572-73) (emphasis added). As a result, there is no evidence that supports the Board's refusal to construe OIDs as not user modifiable.

Second, Enfish's expert testified that a POSITA would understand that OIDs are not modified by the system once created. (A972; A7983-85.) As set out above, Enfish provided a number of authoritative texts that show OID is understood to not be modifiable by either users or the system. (A7820-22; A8569; A8572-73; A9702-03.) None of the non-expert testimony that Microsoft presented contradicted the requirement that the claimed OIDs be immutable. Instead, even Microsoft's expert agreed that the specification does not contemplate allowing system-modifiable OIDs or explain how the claimed system could function if the system did modify OIDs. (A972; A7983:25-A7985:5; A9841-46.)

3.   The intrinsic evidence is consistent with Enfish's proposed construction of OID as immutable

In its Patent Owner Response, Enfish showed that the specification is consistent with OID or "object identification number" being construed as an

"*immutable* … value that identifies an object." (A969-72 (emphasis added) (citing A1469; 1:65-2:1).) The reason is simple: OIDs could not function as identifiers or be transferred between systems if they were mutable. (*Id.*; A7820-21; A9702.) The Board failed to address this intrinsic evidence of immutability. (A17-19.)

E.   The Board's improper claim construction of OID harmed Enfish and amounts to reversible error

Each of the four errors the Board committed in construing OID harmed Enfish and amounts to reversible error. The Board's improper construction of OID as defining an object rather than identifying an object resulted in an improper finding that information in a row that defined a column could serve as an OID. (A25-26 (finding a combination of Chang's column name and number could serve as OIDs).) The Board's improper construction of OID as not requiring uniqueness resulted in an improper finding that the combination of column name and number could be an OID, as neither is unique. (A25-26; A984-91.) The Board's improper construction of OID as not requiring system generation resulted in an improper finding that column name could be part of an OID, as it is user-generated. (*Id.*) And the Board's improper construction of OID as not requiring immutability resulted in an improper finding that the combination of column name and number could be an OID, as column name is user modifiable and column number is system modifiable. (*Id.*)

This Court should reverse the Board's anticipation findings for claims 31, 42, 48-50, and 54 of the '604 patent and claims 31, 41, 46, 48-50 and 54 of the '775 patent, enter Enfish's proposed construction for OID as "a unique, immutable, and system-generated value that identifies an object," and hold that claims 31, 42, 48-50 and 54 of the '604 patent and claims 31, 41, 46, 48-50 and 54 of the '775 patent are not unpatentable over Microsoft's Petitions.

II.   The Board's ruling that Chang does not anticipate claims 32 is based on substantial evidence and should be affirmed

The Board's findings that claims 32 are not anticipated by Chang is based on substantial evidence. Microsoft failed to show that all the limitations of claims 32 were found in a single table in Chang. The Board's determination that claims 32 are not anticipated by Chang is reviewed for substantial evidence. *In re Morsa*, 713 F.3d 104, 109 (Fed. Cir. 2013). This Court should affirm the Board's findings that Chang did not anticipate claims 32 for three reasons.

First, the Board found that Chang did not teach all of the limitations of claims 32 in a single table, as required by the claims. (A112-13.) Microsoft does not challenge this single-table requirement of claims 32 on appeal. The Board's determination is supported by substantial evidence and should be affirmed.

Second, Microsoft makes three new arguments that were not presented below and are not properly before this Court: (1) that Chang's SYS.COLUMNS

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table alone anticipates claims 32, which is waived (Appellant's Br. at 34); (2) that claims 32 are anticipated by Chang's SYS.TABLES alone, which is also waived (*id*. at 34-35); and (3) that the Board improperly construed "text entry" to require text entry followed by searching. (*Id*. at 36-42.) Microsoft's new "text entry" construction should be rejected because Microsoft invited the alleged error of which it now complains. Even if these new arguments are considered, they fail for lack of merit.

Third, the Board did not adopt Microsoft's argument that Chang's SYS.TABLES anticipated claims 31. Consequently, there is no record to support Microsoft's arguments on appeal that SYS.TABLES meets every limitation of claims 32. (Appellant's Br. at 30-42.) If the Court overturns the Board's finding of no anticipation, it must remand for the Board to determine if Chang's SYS.TABLES meets every limitation of claims 31.

A.   The Board's ruling that Chang does not anticipate claims 32 is based on substantial evidence

The Board found that Chang did not anticipate claims 32 because Microsoft failed to show that the SYS.TABLES and SYS.COLUMNS tables could perform "enabling determination of OID from text entry" without relying on the separate SYS.INDEXES table. (A112-13.) Because all of the limitations of claims 32 must be found in one table, neither SYS.TABLES nor SYS.COLUMNS anticipate claims 32. (*Id.*) The Board's findings were based on substantial evidence,

including the testimony of Microsoft's expert, Dr. Hosking, and the express

disclosures of Chang. (*Id.*) The Board's finding that Chang does not anticipate

claims 32 should be affirmed. *Belden Inc. v. Berk-Tek LLC*, 805 F.3d 1064, 1073-

74 (Fed. Cir. 2015) (upholding the Board's finding based on substantial evidence

in the form of disclosures in the prior art and expert evidence).

1.   Microsoft does not challenge the Board's interpretation of claims 32 requiring that all limitations be found in one table

Microsoft does not challenge the Board's interpretation of claims 32 that

requires all limitations be found in a single table. (A109; A111-12; *see also*

A1350-51.) Microsoft acceptance of the Board's single-table construction means

the issue is not before this Court. *SmithKline Beecham Corp. v. Apotex Corp.*, 439

F.3d 1312, 1320 (Fed. Cir. 2006) (when "a party includes no developed

argumentation on a point … [this Court] treat[s] the argument as waived"). The

only way left for Microsoft to overcome the Board's finding of no anticipation is to

prove that the Board did not rely on substantial evidence when it determined that

SYS.TABLES and SYS.COLUMNS did not teach all of claims 32's limitations in

a single table. (A112-13.)

2.   The Board found that Chang's SYS.TABLES did not anticipate claims 32 after considering the teachings of Chang and the expert testimony of Dr. Hosking

The Board twice rejected Microsoft's argument that Chang's SYS.TABLES

table anticipated claims 32, first in its Petitions and second in its Motions for

Rehearing. (A111-13; A1360-62.) The Board rejected both attempts because Chang required more than one table to meet the limitations of claims 32. (*Id.*)

In its Final Written Decisions, the Board found that Chang's SYS.INDEXES table was required to determine what columns in Chang's database could be searched. (A113 ("[T]he only table Chang discloses for searching is SYS.INDEX shown in Figure 4.") (citing A3767, 7:27-29).) The Board also credited Dr. Hosking's admission that the SYS.INDEXES table was required to determine "what columns are amenable to being searched." (A112 (citing A2806 ¶ 200).) Dr. Hosking also admitted that there was no evidence in Chang that SYS.TABLES was indexed (A8125:3-6), a critical requirement of Microsoft's theory requiring that the system catalogs (SYS.TABLES and SYS.COLUMNS) themselves be searchable. (Appellant's Br. at 34.)

On rehearing, the Board again outlined the substantial evidence underlying its decision, reviewing Dr. Hosking's Declaration, deposition testimony, and Chang. (A1360-62.) The Board found that Dr. Hosking was unable to identify a single logical table disclosed by Chang that defines a logical column to contain information for enabling determination of OIDs from text entry:

> Q: My question in the eight paragraphs in the section for claim two, can you point to a single table -- a single logical table in which logical column information exists that defines one of the logical columns in that table to contain information for enabling determination of OIDs in that table from text entry?
> …

A: Yeah. I think my answer was no.

(A1361 (citing A8129:22–A8130:7).) The eight paragraphs from Dr. Hosking's Declaration that the above testimony addressed specifically discussed four of Chang's tables: (i) SYS.INDEXES; (ii) SYS.TABLES, (iii) SYS.COLUMNS, and (iv) EMP. (A1579-81 ¶¶ 180-186.) Dr. Hosking testified that none of those tables alone could perform the limitations of claims 32. (*Id*.)

In evaluation Microsoft's arguments, the Board found they lacked support and were not persuasive. (A112; A1362.) The Board reasoned that Microsoft did "not explain how OID determination, by text entry, as recited in claim 32, would be conducted" on the SYS.TABLES or SYS.COLUMNS tables or whether they are even "indexed to provide such a search function." (A112.) Microsoft also did not define what "information" from SYS.INDEXES is contained in the SYS.TABLES packed descriptor that would enable determination of an OID from text entry. (A1362.)

The Board's finding of no anticipation of claims 32 was based on substantial evidence and should be affirmed.

B.   Microsoft's three new anticipation arguments should be rejected because they are waived, or allege error that Microsoft invited, and lack evidentiary support

Microsoft makes at least three new arguments to show that either SYS.COLUMNS or SYS.TABLES alone anticipate claims 32. (Appellant's Br. at

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30-42.) Microsoft's first new argument is that Chang's SYS.COLUMNS table alone anticipates claims 32. Microsoft's second new argument is that claims 32 are anticipated by Chang's SYS.TABLES alone. Microsoft's third new argument is that the Board improperly construed "text entry" to require text entry followed by searching. Microsoft's new arguments should be rejected either as waived or because Microsoft invited the error of which it now complains. Microsoft's new arguments also fail because they lack evidentiary support and rely on multiple tables.

      1.   Microsoft's argument that Chang's <u>SYS.COLUMNS</u> alone anticipates claims 32 is waived and fails because it relies on more than one table

Microsoft now argues that SYS.COLUMNS alone anticipates claims 32 because "a user querying SYS.COLUMNS would cause the column OIDs for that table to be determined from the SYS.COLUMNS rows that stored column definitions as part of query validation." (Appellant's Br. at 34.) Nowhere in Microsoft's discussion of claims 32 below did it mention user queries or contend that an OID could be determined using SYS.COLUMNS alone. (A233-34; A370-71; A1261-65; A1299-1303; A1347-57; A1366-76.) Because Microsoft did not present its new "SYS.COLUMNS alone" anticipation argument to the Board, it is not properly before this Court and is waived. "It is well-established that a party generally may not challenge an agency decision on a basis that was not presented

to the agency." *DBC*, 545 F.3d at 1378; *Baxter,* 678 F.3d at 1362 (arguments not presented to the Board are waived).

If this Court considers Microsoft's new "SYS.COLUMNS alone" anticipation argument, it should reject it because it still relies on multiple tables, violating the single-table requirement of claims 32. Chang's SYS.COLUMNS table contains rows defining each column in all the different tables in Chang's multi-table database—but critically, not all the columns described in SYS.COLUMNS' rows are present as columns in the SYS.COLUMNS table. (A3766, 6:28-32.) In other words, the rows in SYS.COLUMNS reference columns in all the different tables. Claims 32 of the Enfish patents, on the other hand, require that a single table contains at least one logical row that includes logical column information "define[ing] one of said logical columns to contain information for enabling determination of OIDs from text entry." (A111-12; A1480, 23:29-35.) No such column exists in Chang's SYS.COLUMNS table.

On appeal, Microsoft does not point to any column in the SYS.COLUMNS table that "contain[s] information for enabling determination of OIDs from text entry" as required by claim 32. (Appellant's Br. at 33-34.) Instead, Microsoft relies on Chang's *compiling* function, arguing that a hypothetical user who queried SYS.COLUMNS would "cause the column OIDs for that table to be determined from the SYS.COLUMNS rows that stored column definitions as part of query

validation." (Appellant's Br. at 34.) This argument fails to satisfy the claim limitation because the compiler *interacts with multiple tables* when a SQL query is executed, not a single table as required by claims 32. (A3764, 2:17-21 ("During compilation, information about all objects specified within the user's request must be accessed from the system *catalogs* in order to obtain the required physical descriptions of these objects.") (emphasis added).)

To circumvent Chang's explicit teaching that compilation involves accessing multiple tables, Microsoft contends—without support—that SYS.COLUMNS can be queried alone. Querying SYS.COLUMNS alone, Microsoft alleges, would prevent the compiler from accessing multiple tables containing the information about all the objects related to the user's request. (Appellant's Br. at 34.) But the evidence cited by Microsoft reveals no such teaching. (A3763 (Abstract), A3765, 4:3-9.)

The evidence relied on by the Board in finding no anticipation of claims 32 for SYS.TABLES also shows that there is no single table in Chang that enabled determination of OIDs from text entry. (A111-13; A1360-62.) For example, Dr. Hosking opined that the SYS.INDEX of Figure 4, a separate table from SYS.COLUMNS, is necessary for the database disclosed by Chang to determine what "columns are amenable to being searched." (A2706 ¶ 200.) Dr. Hosking also

testified that he could not point to a single table that met the limitations of claims 32. (A8129:22–A8130:7.)

Finally, while Microsoft claimed that SYS.TABLES alone anticipated claims 32 because the packed descriptor column contained "the indexing information [of the] SYS.INDEXES table" (A1359), the packed descriptor column is not present in the SYS.COLUMNS table. Therefore, Microsoft's packed descriptor argument regarding SYS.TABLES cannot apply to its "SYS.COLUMNS alone" argument (A1362; A3773, Fig. 3.) SYS.COLUMNS does not contain the index information Microsoft alleges is required to allow OID determination from text entry. (A3773, Fig. 3.)

> **2.   Microsoft waived its argument that Chang's <u>SYS.TABLES</u> alone determines row OIDs through indexed primary keys and it should also be rejected because it relies on more than one table**

Microsoft improperly expands the SYS.TABLES anticipation argument made below by arguing that Chang's SYS.TABLES anticipates claims 32 by "inherently enabling records/rows of a table to be identified by searching on a 'primary key column.'" (Appellant's Br. at 34-35.) Microsoft presented no such argument to the Board and it is not properly before this Court and is waived. *DBC*, 545 F.3d 1373.

Below, Microsoft spent less than a paragraph on a related anticipation argument that relied on multiple tables. (A371.) Microsoft's multi-table argument

relied on combining inherent primary key columns in Chang with SYS.TABLES, SYS.COLUMNS, and the Employee Table to allegedly anticipate claims 32. (A234-35; A370-71.)

On appeal, Microsoft now claims SYS.TABLES alone anticipates claims 32 by allegedly including the primary key column information in the packed descriptor column. (Appellant's Br. at 34-35.) According to Microsoft's new "SYS.TABLES alone" argument, the "primary key columns were indexed to speed up searching" and these indexed primary key columns were included in the SYS.TABLES packed descriptor so "that they could be used in finding the record matching the user's query." (Appellant's Br. at 35.) Because these arguments were not made to the Board (A234-235; A370-71), they are waived. *DBC*, 545 F.3d at 1378; *Baxter*, 678 F.3d at 1362.

Microsoft also cites to portions of the Hosking Declaration that were not presented in its Petitions below. Incorporating arguments by reference is prohibited in IPRs. 37 C.F.R. § 42.6(a)(3); *Fidelity Nat'l Info. Servs., Inc. v. Datatreasury Corp.*, No. IPR2014-00489, Paper 9, at 9-10 (PTAB Aug. 13, 2014). Microsoft's new cites to the Hosking Declaration were not before the Board and should not be considered. *DBC*, 545 F.3d at 1378; *SmithKline*, 439 F.3d at 1319 (arguments not raised are waived).

Regardless, Microsoft's primary key column argument is materially the same as Microsoft's packed descriptor argument, which the Board already rejected. (Appellant's Br. at 35; A370.) The only difference is now Microsoft asserts an undisclosed, but allegedly inherent, primary key column is the indexed column included in the packed descriptor. (*Id.*) The Board already found the SYS.INDEXES information contained in the SYS.TABLES packed descriptor does not enable OID determination in a single table based on text entry. (A111-13; A1329.) The Board's rejection of Microsoft's packed descriptor argument applies equally to Microsoft's new primary key argument. Even if the primary key column existed and was indexed, the SYS.INDEXES information in the packed descriptor does not enable the claimed OID determination using SYS.TABLES. (*Id.*)

Microsoft also fails to present evidence to support the factual assertions underlying its "SYS.TABLES alone" argument. First, Microsoft presented no evidence that the "EMP NO" column is indexed. (Appellant's Br. at 35.) Chang's SYS.INDEXES table does not show indexing of the "EMP NO" column. (A3773, Fig. 4.) Second, Microsoft presented no evidence that the SYS.TABLES packed descriptor would include information that would permit determining an OID from text entry, even if the EMP NO column was indexed. (A112-13; A1362.) Third, Microsoft presented no evidence or arguments that a primary key is an OID. Fourth, Microsoft failed to establish that the primary key column was inherent.

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ZTE Corp. v. ContentGuard Holdings, Inc., IPR2013-00137, Paper 58 at 25 (PTAB July 1, 2014) (showing inherency requires the evidence make clear the missing element is necessarily present) (citing *In re Oelrich*, 666 F.2d 578, 581-82 (CCPA 1981)). This Court should reject Microsoft's argument for each of these failures.

3. Microsoft invited the Board to interpret "text entry" in the context of "text searching" and Microsoft's new construction of "text entry" should be rejected

In the proceedings below, Microsoft never proposed a construction for "text entry" in claims 32. (A208-18; A341-51.) The Board did not construe the term and found that Microsoft failed to show the "text entry" limitation of claims 32 was present in Chang. (A10; A96.)

Now, Microsoft argues the Board construed "text entry" too narrowly, contending the Board improperly construed "text entry" to require text searching. (Appellant's Br. at 36.) The only argument Microsoft made below regarding the "text entry" limitation of claims 32 was based on Chang creating "indexes of keywords in columns of a logical table that may be *searched*." (A370 (emphasis added); A233-34.) The Board considered the search function Microsoft presented as including text entry, not that text entry *required* searching. (A113.) Therefore, even if Microsoft's contention that the Board misconstrued "text entry" was accurate, it would be invited and harmless error. *O2 Micro Int'l Ltd. v. Beyond*

Innovation Tech Co., 449 F. App'x. 923, 934 (Fed. Cir. 2011) (rejecting appeal where alleged error was proposed by appellant in the proceedings below) (citing *Key Pharm. v. Hercon Labs. Corp.*, 161 F.3d 709, 715 (Fed. Cir. 1998)).

Microsoft also fails to identify evidence that Chang meets every limitation of claims 32 under its new and allegedly-broader construction of "text entry." Microsoft's anticipation arguments on appeal are: (1) "Column OIDs were determined in response to *text entry of query statements* by retrieving column definitions in SYS.COLUMNS or SYS.TABLES," and (2) "Alternatively, row OIDs were determined through columns defined to contain index information that *facilitated searching*." (Appellant's Br. at 33-35 (emphasis added).) Even on appeal, all of Microsoft's anticipation arguments require searching. (*Id.*) As a result, Microsoft's new "text entry" claim construction argument should be rejected.

C.   Even if the Court overturns the Board's findings that SYS.TABLES does not anticipate claims 32, the Court lacks the factual record to determine if Chang anticipates claims 32 based on SYS.TABLES

If this Court overturns the Board's finding that SYS.TABLES does not anticipate claims 32 because it lacks the "text entry" limitation, this Court must remand to the Board for further proceedings.

In the IPRs below, the Board did not adopt Microsoft's SYS.TABLES anticipation argument as to claims 31. (A107-11; Appellant's Br. at 29.) In fact, the

Board made no findings regarding whether any of the limitations of claims 31, which are incorporated into dependent claim 32, were met by SYS.TABLES. (*Id*.; 35 U.S.C. § 112(d) (a dependent claim incorporates all the limitations of the claims it depends from).) As a result, if this Court reverses the Board's no-anticipation rulings, the Court must remand for further proceedings to determine whether SYS.TABLES meets each limitation of claims 31. *Atl. Thermoplastics Co. v. Faytex Corp.*, 5 F.3d 1477, 1479 (Fed. Cir. 1993) ("Fact-finding by the appellate court is simply not permitted.") (citing *Anderson v. City of Bessemer City*, 470 U.S. 564, 573 (1985)).

Despite this, Microsoft baldly asserts that SYS.TABLES anticipates claims 31 to support its claims 32 arguments. (Appellant's Br. at 30 ("Thus, both SYS.TABLES and SYS.COLUMNS anticipated claim 31 of each patent."); A109.) **The Board made no such finding**.

There is no record to support this Court finding claims 32 anticipated by SYS.TABLES. If the Court overturns the Board's findings of no anticipation—which it should not—then this Court must remand this case for additional factual findings as to whether SYS.TABLES meets the limitations of claims 31 incorporated into claims 32.

III. Microsoft does not challenge the substantial evidence supporting the Board's determination that claims 36 were not obvious; instead, Microsoft makes a new and unsupported claim construction argument

The Board found that claims 36 were not obvious in view of the teachings of Chang and Goldberg. (A123-24.) The Board's non-obviousness determination was based on substantial evidence that Chang and Goldberg did not render obvious all the limitations of claims 36 in a single table. (*Id.*) Microsoft does not challenge the Board's factual findings, and this Court can affirm on this basis alone.

Instead of challenging the Board's factual determinations, Microsoft makes a new claim construction argument that the limitations of claims 36 can be found in multiple tables. Microsoft's new multi-table claim construction argument was not presented to the Board and is not properly before this Court. *DBC*, 545 F.3d at 1378. In addition, Microsoft's new multi-table claim construction argument is contrary to the claim language and the tenets of claim construction. Therefore, this Court should reject Microsoft's multi-table claim construction argument.

The Board's non-obviousness determination is a question of law reviewed *de novo*, with underlying findings of fact reviewed for substantial evidence. *In re Gartside*, 203 F.3d 1305, 1316 (Fed. Cir. 2000).

A. Microsoft waived its claim construction argument for "different logical row/record" by not making it below

This Court should not consider Microsoft's new claim construction argument regarding the phrase "different logical row/record" in claims 36 that it

did not present to the Board. (Appellant's Br. at 42-43.) Before the Board, Microsoft proposed a construction of "a different logical row/record" as "establishing a category that can be used in another row." (A217-18; A351.) Microsoft now proposes a broader construction that would allow the different row to be in the same table *or a different table*. (Appellant's Br. at 43-44.) Microsoft cannot broaden its claim construction argument on appeal. *Digital-Vending Servs. Int'l, LLC v. Univ. of Phoenix*, 672 F.3d 1270, 1273 (Fed. Cir. 2012).

B.   The Board correctly construed claims 36 to require that the "different logical row/record" be in the same table

Even if considered, Microsoft's new multi-table claim construction argument regarding claims 36 should be rejected because it contradicts the tenets of claim construction and is not supported by the claim language. This Court should affirm the Board's determination that claims 36 require that all limitations be found in a single table. The Board's interpretation of claims 36 is based on intrinsic evidence and reviewed *de novo*. *Teva*, 35 S. Ct. at 841.

Based on the claim language and specification, the Board found claims 31 and, by extension, dependent claims 36, require all the limitations be found in a single table. (A109; A111-12; A123-24; A1451; A1454; A1460-62; A1469, 1:41-60, A1470, 3:7-21; A1476, 16:65-67.) On appeal, Microsoft *does not challenge* the Board's single-table interpretation of claims 31, so this issue is not on appeal. *Supra* at § II(A)(1); *SmithKline*, 439 F.3d at 1319. Accordingly, Microsoft's

argument that claims 36 can be met by multiple tables would impermissibly broaden the scope of a dependent claim beyond the undisputed scope of its base claim. *Enzo Biochem Inc. v. Applera Corp.*, 780 F.3d 1149, 1156 (Fed. Cir. 2015) ("[D]ependent claims cannot broaden an independent claim from which they depend.") (citation omitted). Microsoft's claim construction argument should be rejected for this reason alone.

Microsoft's new claim construction argument is also unsupported by the intrinsic record and cited evidence. Microsoft cites the '604 patent specification claiming that nothing in the specification requires that the "different logical row/record" be in the same table. (Appellant's Br. at 44.) But Microsoft's citations only disclose single-table embodiments. (A1474, 12:16-20 ("The list 250 is shown separately from the table 100 for the purposes of illustration but, in the preferred embodiment, the *list 250 comprises part of the table 100*.") (emphasis added), *see also* A1454, Fig. 3.) The Board agreed the specification did not disclose any multi-table embodiments. (A112.)

Second, Microsoft alleges that, during prosecution of the appealed patents' parent, Enfish acquiesced to the examiner's rejection of a claim with similar wording, allegedly supporting Microsoft's multi-table argument. (Appellant's Br. at 44-45.) But the claim in question ultimately *issued without amendment* after its base claim, claim 1, was amended to address different prior art. (A4990.) As

shown in the issued '730 patent, claim 6 was *issued* over the prior art cited by Microsoft. (A5713, 20:62-67.)

Microsoft's new interpretation of claims 36 lacks intrinsic support and would impermissibly broaden the scope of a dependent claim and should be rejected. The Board's finding of non-obviousness for claims 36—which was based on substantial evidence—should be affirmed.[5]

IV.   Microsoft does not challenge the substantial evidence supporting the Board's determination that claims 37 were not obvious; instead, Microsoft makes a new and unsupported claim construction argument

The Board found that claims 37 were not obvious in view of the teachings of Chang and Anderson. (A125-26.) The Board's non-obviousness determination was based on substantial evidence that neither Chang nor Anderson taught the claimed "pointer." (*Id.*) The Board's construction of pointer relied on Dr. Jagadish's testimony and other extrinsic evidence, is consistent with the claims and the specification, and should not be overturned. This Court can affirm on this basis alone.

Microsoft does not challenge the Board's factual findings, instead making a new claim construction argument regarding the claim term "pointer" not presented

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[5] In addition, Microsoft relies entirely on Chang's SYS.TABLES in combination with Goldberg to prove claims 36 are obvious. For the same reason that this Court lacks the factual record to find claims 32 anticipated by Chang's SYS.TABLES, no factual record exists to determine if claims 36 are obvious. Therefore remand would be required if the Court overturns the Board's findings. *See supra* § II(C).

to the Board that is not properly before this Court. *DBC*, 545 F.3d at 1378. Not only should this Court not consider Microsoft's new "pointer" construction, it is also contrary to the extrinsic evidence. Therefore, this Court should reject Microsoft's "pointer" claim construction.

The Board's non-obviousness determination is a question of law reviewed *de novo*, with underlying findings of fact reviewed for substantial evidence. *Gartside*, 203 F.3d at 1316. The Board's claim construction determinations are reviewed *de novo*, but underlying factual determinations relating to extrinsic evidence are reviewed for substantial evidence. *Microsoft Corp. v. Proxyconn, Inc.*, 789 F.3d 1292, 1297 (Fed. Cir. 2015).

A.   Microsoft waived its claim construction argument for "pointer" by not making it below

This Court should not consider Microsoft's new claim construction argument regarding the term "pointer" in claims 37 because Microsoft did not present it to the Board and it is not properly before this Court and is waived. *DBC*, 545 F.3d at 1378. (Appellant's Br. at 45-49.) Before the Board, Microsoft argued that the claim term "pointer" could include formula variables in a cell, like those disclosed by Anderson. (A44-46; A125-26.) The Board rejected Microsoft's construction. (A126.) On appeal, Microsoft now proposes a broader construction of "pointer" as merely a reference to another cell. (Appellant's Br. at 48.) Microsoft

cannot present a new and broader claim construction argument on appeal. *Digital-Vending*, 672 F.3d at 1273.

B. Even if Microsoft's new construction of "pointer" is considered, it should be rejected

The Board's construction of "pointer" as a "variable that stores the address of where another object resides" is supported by the intrinsic record, Dr. Jagadish's testimony, and authoritative texts. (A126; A7882-83 ¶¶ 207-211.) The Board's construction is reviewed *de novo* with underlying findings of fact reviewed for substantial evidence. *Microsoft*, 789 F.3d at 1297.

The term "pointer" in claims 37 is not explicitly defined by the patents' claims or the specification. (A126.) Accordingly, the Board looked to the testimony of Dr. Jagadish and the extrinsic evidence. (A45; A126; A7882-84.) The Board found that Dr. Jagadish's opinion was consistent with the patents' specifications. (A126, citing A1473, 9:67-10:4; A1474, 12:16-26.) Microsoft did not rebut Enfish's evidence or expert testimony. (A1254; A1292; A208-18; A341-51.) The Board's construction of "pointer" is supported by substantial evidence and should be affirmed.

Microsoft's new "pointer" construction, on the other hand, requires "only to point (refer to) another record/cell." (Appellant's Br. at 48.) This construction is overbroad and contrary to the plain and ordinary meaning of "pointer" as understood by a POSITA. As a result, Microsoft's construction should be rejected.

V.   The Board's determination that claim 42 of the '775 patent is not obvious is supported by substantial evidence and should be affirmed

The Board properly found claim 42 of the '775 patent not obvious because the combination of Chang, Horn, and Anderson lacked the claimed pointer. (A30-31.)[6] The same analysis applied above to claims 37 applies equally to claim 42 of the '775 patent.

VI.   The Board's determination that claim 43 of the '604 patent is not obvious is supported by substantial evidence and should be affirmed

The Board properly found claim 43 of the '604 patent not obvious because the combination of Chang and Horn did not disclose all the elements of claim 43 in a single table. (A30-31.)[7] Microsoft does not challenge the Board's determination that claim 42 and claim 43 require every element to be found in a single table, so that issue cannot be reopened on appeal. *SmithKline*, 439 F.3d at 1319. (Appellant's Br. at 51-52.)

On appeal, Microsoft makes a new argument that relies only on Chang's SYS.TABLES. In addition to being waived, Microsoft's new "SYS.TABLES only" argument is insufficient because it fails to address claim 43's requirement

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[6] This dispute is moot if this Court agrees that the Board erred in its construction of OID, because claim 42 requires OIDs which are not present in Chang, Horn or Anderson.

[7] This dispute is moot if this Court agrees that the Board erred in its construction of OID because claim 43 requires OIDs which are not present in Chang or Horn.

that the "pointers indicat[e] those logical columns within the same record that contain defined values." (A1480, cl. 43.)

A. The Board's determination that Microsoft improperly relied on multiple tables to show the limitations of claim 43 is supported by substantial evidence

The Board concluded that claim 43 of the '604 patent was not obvious over Chang and Horn because Microsoft "fail[ed] to show the limitations in claim 43 as being within a single table." (A31.) Microsoft's petition presents its obviousness arguments against claim 43 in a single paragraph. (A241-42.) In that paragraph, Microsoft points to: (1) the packed descriptor "(e.g., PD)" in SYS.TABLES; (2) the "Sys.Columns 14 of Figure 3 containing 'EMP' 13 which references employee table 'EMP'"; and (3) the "EMP No column of Figure 1 contain[ing] defined employee numbers" in the Employee Table. (*Id*.) Microsoft concludes that "[t]herefore, Chang teaches every additional limitation of claim[] … 43." (*Id*.) Based on this evidence, the Board concluded that Microsoft failed to prove claim 43 obvious because it impermissibly "relie[d] upon *at least two* different tables in Chang, SYS.TABLES and SYS.COLUMNS." (A31 (emphasis added).) As shown above, Microsoft's invalidity proof actually relied on at least *three* tables in Chang—SYS.TABLES, SYS.COLUMNS, and the Employee Table ("EMP"). (A241-42.) The Board's finding that claim 43 was not obvious over Chang and

Horn is therefore supported by substantial evidence and the Board's conclusion of non-obviousness of claim 43 should be affirmed.

B.   Microsoft's new "SYS.TABLES only" argument on appeal is waived

On appeal, Microsoft reproduces several annotated figures from Enfish's Patent Owner Response demonstrating a self-referential SYS.TABLES table and a corresponding packed descriptor for that table.[8] (Appellant's Br. at 52.) Then, without citing any evidence in the record, Microsoft concludes it "established that the SYS.TABLES column numbers stored in the packed descriptor of that table satisfied claim 43's limitation requiring pointers to columns with defined values in that table." (*Id.* at 53.) But, Microsoft did not raise any of these "SYS.TABLES only" arguments in the record below and they are therefore not properly before this Court and are waived. *DBC*, 545 F.3d at 1378; *Baxter*, 678 F.3d at 1362.

C.   Microsoft's new "SYS.TABLES only" argument does not teach pointers to logical columns in the same record that contain defined values

Microsoft's new SYS.TABLES only argument fails to explain how the column numbers from Chang "indicat[e] those logical columns within the *same record* that contain defined values," as recited in claim 43. (A1480 (emphasis added).) Before the Board, Microsoft relied on the employee numbers in Chang's

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[8] These annotated figures were presented in the Patent Owner Response to explain how Chang failed to disclose the elements of independent claims 1 and 31.

EMP table as the defined values. (A242.) EMP is a separate table from either SYS.TABLES or SYS.COLUMNS. (A3773.) The packed descriptor in SYS.TABLES does not indicate whether a column in SYS.TABLES has defined values, and Microsoft does not argue it does. (Appellant's Br. at 52.) Therefore, Microsoft's new SYS.TABLES only argument fails because there is no evidence showing pointers that indicate logical columns *within the same record* that contain defined values as recited in claim 43.

VII. The Board's determination that claims 55, 56, and 60 were not obvious because Microsoft failed to show evidence of combinability of the teachings of VB3 and Salton should be affirmed

The Board's determination that it was not obvious to combine the teachings of VB3 and Salton was based on substantial evidence. Microsoft's petitions failed to provide any evidence to prove the combinability of VB3 and Salton, relying solely on one sentence of conclusory attorney argument. (A319.) Enfish's expert testified that Salton taught away from the full-text indexing claimed in the Enfish patents. (A7897-98.) And Enfish identified the portions of Salton that taught away from using the full text of documents for indexing because it was "expensive and is rarely possible." (A9674.) Microsoft failed to rebut Enfish's non-obviousness evidence. Microsoft now offers new arguments to this Court that it did not present to the Board and are therefore not properly before this Court and are waived. *DBC*, 545 F.3d at 1378; *Baxter*, 678 F.3d at 1362.

A.   The Board's determination that a POSITA would <u>not</u> have combined VB3 with Salton was based on substantial evidence

This Court reviews the ultimate question of obviousness *de novo* but reviews underlying factual determinations for substantial evidence. *Gartside*, 203 F.3d at 1316. Enfish provided substantial evidence showing that a POSITA would not have combined Salton with VB3. Microsoft, in contrast, provided only attorney argument to support its contentions.

1.   Enfish produced evidence showing that it would not be obvious to combine the teachings of VB3 and Salton

Enfish provided evidence found in Salton that explicitly teaches away from combining Salton with VB3. (A9674.[9]) Salton describes full-text indexing but explains that "the computer storage of the full text of documents is expensive and is rarely possible except as a by-product of automatic typesetting operations." (A7708.) These disparaging remarks teach away from combining Salton's full-text indexing with a database such as VB3. (A7897.)

Enfish also provided testimonial evidence describing the difficulties of implementing full-text indexing into relational databases such as the one in VB3. (A9674.) Enfish's expert, Dr. Jagadish, testified that "a [POSITA] would have realized that incorporating full-text indexing such as that alluded to but disparaged

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[9] Pages A9615-86 and A1019-84 are both the Patent Owner Response in IPR2013-00563. A9615-86 is the corrected version submitted to the Board. The substance is the same; clerical errors are corrected.

in Salton into a relational database such as that described in VB3 is fraught with difficulties, meaning the likelihood of success in making the combination [Microsoft] proposes would be low." (A7897.) Dr. Jagadish pointed to extrinsic evidence to support his opinion. (A7897; A8593.)

2. Microsoft failed to provide any evidence supporting its proposed combination of VB3 and Salton

For claims 55, 56, and 60, Microsoft's petitions fail to allege sufficient rationale to combine the teachings of VB3 with Salton. (A319; A323.) Microsoft was required to provide "some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness." *KSR Int'l Co. v. Teleflex, Inc.*, 550 U.S. 398, 418 (2007). Microsoft's failure to articulate any rationale to combine VB3 and Salton is fatal.

At best, Microsoft's obviousness arguments merely allege that VB3 and Salton are in the same field of endeavor "because both Salton and VB3 discuss information search and retrieval using computer databases." (A506; A319 (claims 55); *also* A508; A319 (claims 56); A513; A323 (claims 60).) But Microsoft's allegation that these references are in the same field is legally insufficient to show obviousness. *TriMed, Inc. v. Stryker Corp.*, 608 F.3d 1333, 1343 (Fed. Cir. 2010); (A611-12 (citing decisions).

Microsoft's expert's declarations simply repeated the legal standard for combining references without any evidentiary support for combining VB3 and

Salton. (A1650; A1657; A2781; A2787 (claims 55); *also* A1659; A2790; A1667; A2797-98 (claims 60).) "Expert testimony that does not disclose the underlying facts or data on which the opinion is based is entitled to little or no weight." 37 C.F.R. § 42.65(a). The Board properly discounted this unsupported testimony. (A77; 37 C.F.R. § 42.65(a).)

The Board's non-obviousness conclusion reflects Microsoft's failure to articulate any rationale to combine VB3 and Salton (A79; A186) and should be upheld.

B.   Microsoft makes new arguments on appeal regarding the obviousness to combine VB3 and Salton

On appeal, Microsoft makes two new arguments regarding the obviousness of VB3 and Salton. First, Microsoft argues that the Board should have considered common sense in evaluating the combination of VB3 and Salton. Second, Microsoft attempts to rebut Enfish's non-obviousness arguments for the first time on appeal.

1.   Microsoft waived its new arguments regarding using "common sense" to combine VB3 and Salton

Microsoft's first new argument for the obviousness of combining VB3 and Salton is that the Board should have considered the "common sense" of a POSITA in assessing obviousness. (Appellant's Br. at 59-63.) This argument was not

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presented to the Board, is not properly before this Court and is waived. *DBC*, 545

F.3d at 1378; *Baxter*, 678 F.3d at 1362.

2. Even if considered, Microsoft's "common sense" arguments are insufficient

Even if considered, Microsoft's new "common sense" arguments are

insufficient because they are nothing more than "general conclusions about what is

'basic knowledge' or 'common sense'" without documentary support. *K/S HIMPP*

v. Hear-Wear Techs., LLC, 751 F.3d 1362, 1366 (Fed. Cir. 2014) (quoting *In re*

Zurko, 258 F.3d 1379, 1385-86 (Fed. Cir. 2001)).

The cases Microsoft cites to support its position that combining VB3 and

Salton was "common sense" do not apply here because in those cases there was

some evidence in the record that explained <u>why</u> the combination was common

sense. (Appellant's Br. at 59; citing *Randall Manufacturing v. Rea*, 733 F.3d 1355,

1362-63 (Fed. Cir. 2013) (noting reliance on documentary evidence); *In re Taylor*

Made Golf Co., 589 F. App'x 967, 971 (Fed. Cir. 2014) (using Wikipedia article).)

There is no such evidence in the record here.

3. Microsoft's attempts to rebut Enfish's non-obviousness arguments for the first time on appeal should be rejected

Microsoft's new arguments rebutting Enfish's non-obviousness arguments

should be rejected because they were not presented to the Board. For claims 55,

Microsoft argues that Salton did not teach away from full-text indexing as

Dr. Jagadish testified and that nothing in claims 55 requires full-text indexing. For claims 56 Microsoft now argues that "there is no substantial difference between storing references to a document and storing references to a logical cell, or between retrieving a document and retrieving a logical cell pointed to by such a reference." (Appellant's Br. at 65.) This argument was not presented in Microsoft's petitions. (A319-20.) Microsoft did not make these arguments below; they should not be considered now. *DBC*, 545 F.3d at 1378; *Baxter*, 678 F.3d at 1362.

CONCLUSION

For the reasons above, this Court should vacate the Board's construction of "OID," enter Enfish's construction as "a unique, immutable, and system-generated value that identifies an object," and reverse the Board's finding of unpatentability of claims 31, 42, 48-50 and 54 of the '604 patent and claims 31, 41, 46, 48-50 and 54 of the '775 patent. This Court should affirm the Board's findings regarding claims 32, 36-37, 43, 55, 56, and 60 of the '604 patent and claims 32, 36-37, 42, 55, 56, and 60 of the '775 patent.

Dated: February 5, 2016   Respectfully submitted,

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for the Federal Circuit
Microsoft Corporation v. Enfish, LLC, 2015-1734

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